

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application. Claims 1, 4-8 and 10-11 are currently pending in this application. No new matter has been added by way of the present amendment. For instance, claims 1 and 7 have been amended to more clearly recite the features of the present invention. Accordingly, no new matter has been added.

In view of the amendments and remarks herein, Applicants respectfully request that the Examiner withdraw all outstanding rejections and allow the currently pending claims.

Issues Under 35 U.S.C. 103(a)

Claims 1, 4-8 and 10-11 stand rejected under 35 U.S.C. 103(a) as being obvious over US ‘230 in view of J. Karger-Kocsis, “Polypropylene An A-Z reference” (hereinafter Karger) and Martin (U.S. 5,733,825) (hereinafter “Martin”). Applicants respectfully traverse.

The Examiner argues that US ‘230 teaches a bulky nonwoven fabric comprising heat fusible conjugate fibers and a method of manufacturing the same. The Examiner asserts that the process of US ‘230 includes the steps of spinning the conjugated filaments by a spun bond method, blowing the webs by a high-speed flow against a scavenging device and removing the blown high-speed flow from the device, carrying out a preliminary bulkiness treatment, adding crimps and bulkiness. The Examiner further asserts that the bulkiness treatment disclosed by US ‘230 is a “heat treatment”, and further asserts that US ‘230 does not teach that the filaments are drawn.

The Examiner acknowledges several deficiencies in US ‘230, namely, (a) US ‘230 does

not teach the property of negative heat shrinkage; (b) US '230 does not teach the resin property of orientation index; and (c) US '230 does not teach the filaments are cut into staple fibers of 30-70mm in length. However, the Examiner asserts that the invention as a whole would have been obvious to one skilled in the art.

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). "[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v Teleflex Inc.*, 82 USPQ 2d 1385 (U.S. 2007). There must be a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *Id.* The Supreme Court of the United States has recently held that the "teaching, suggestion, motivation test" is a valid test for obviousness, albeit one which cannot be too rigidly applied. *Id.* "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The present invention is directed, *inter alia*, to a heat fusible conjugate fiber produced by high-speed melt spinning, and **after the spinning, a crimp treatment but no drawing**, which comprises a first resin component having an orientation index of 40% or higher and a second resin component having a lower melting or softening point than the melting point of the first

resin component and an orientation index of 25% or lower, the second resin component being present on at least part of the surface of the fiber in a lengthwise continuous configuration, wherein said fiber has negative heat shrinkage values at a temperature higher than the melting point or softening point of the second resin component by 10°C, and increases in length upon heating, and wherein the heat fusible conjugate fibers are staple fibers of 30 to 70 mm in length (emphasis added) (see, e.g., claim 1). The present invention is further directed to a bulky nonwoven fabric comprising the above heat fusible conjugate fiber (see, e.g., claim 7). Applicants submit that the prior art of record fails to teach or suggest a heat fusible conjugate fiber and bulky nonwoven fabric as claimed.

Initially, Applicants note that the Examiner has made several inherency assertions. For instance, the Examiner asserts that "...it is presumed the length of the fiber increases and the property of an increase in length is inherent to the bulking fiber of [US '230]" (page 5). Moreover, the Examiner also appears to believe that the orientation index is inherent, as are the claimed specific volume, strength and bulk softness may be inherent in US '230. Applicants respectfully disagree. For instance, Applicants note that if high-speed melt spinning is carried out on such conditions as taught by the prior art documents, the presently claimed orientation index cannot be obtained, since drawing is carried out after the spinning (as done in a spunbonding method). Applicants thus submit that the Examiner has not sufficiently established a case of inherency for all claimed features.

Applicants further note that US '230 does not in any way teach a process as claimed, comprising **after the spinning, a crimp treatment but no drawing**. In the present method,

advantages over the prior art are obtained by virtue of a crimping treatment, without heat treatment or drawing.

The Examiner maintains that US '230 "does not teach that the filaments are drawn." However, Applicants respectfully submit that the Examiner's assertion is incorrect and is based on a misunderstanding of the teachings of US '230. The method of US '230 includes a step of drawing the fibers after the step of spinning. For instance, at col. 5, lines 23-35, US '230 discloses:

"The nonwoven fabric of this invention can be manufactured by the conjugating spun bond method mentioned below. In this method, various polymers are melted and forced out of a plurality of extruders, and conjugated fibers in which multicomponents are conjugated are spun from a conjugating spinning pack. The spun fibers are drawn by a high-speed flux drawing type device such as an air sucker, and the fibers along with the flux are scavenged by a web scavenging device such as a net conveyer. The web is then treated with heat, thus thermally fusing and adhering the fibers. The air flux which is blown with the web is sucked and removed from the bottom section of the scavenging device".

As is clear from the above passage, the fibers of US '230 are drawn. However, in stark contrast to the method of US '230, in the present invention, drawing is not carried out after the spinning. Clearly, US '230 fails to teach or suggest a method as claimed. For this reason alone, this rejection is improper and should be withdrawn.

Moreover, Applicants submit that one skilled in the art would not have been motivated to modify the teachings of US '230 as proposed. In the field of melt-spinning, "no drawing" is not employed when producing fibers, since fibers of high strength cannot be obtained.

The claimed invention requires a specific combination of the claimed melt spinning conditions and unique treatment after spinning. Having no motivation to make heat shrinkage negative by controlling the orientation index of each polymer in a conjugate fiber in the cited references, the cited references cannot possibly lead one of ordinary skill in the art to the claimed subject matter, even via trial-and-error experiments.

Evidently, US '230 fails to teach or suggest a nonwoven fabric as presently claimed. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and objections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

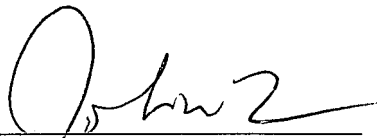
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Vanessa Perez-Ramos (Reg. No. 61,158) at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated:

Respectfully submitted,

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